

REMARKS/ARGUMENTS

The specification was objected to because of informalities.

The specification was amended to overcome the informalities.

Claims 1-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' Admitted Prior Art in view of Yanagiya.

The examiner based the rejection of claim 1 of the instant invention on the following statement, "[Y]anagiya discloses in figure 2C, a barrier layer 20 is formed over the trench shown in the figure, and is made such that its thickness over the upper surface of the element regions around the trench is larger than that of the thickness inside the trench." In examining Fig. 2C of the Yanagiya reference, the applicant must respectfully disagree with the examiner's observations. Figure 2C clearly shows a dielectric layer 20 that has equal thickness inside the trench 14B and on the upper surface that underlies the metal gate 21. The regions of the upper surface that extend beyond the metal gate 21 is covered with layers 15, 16 and 17 with a combined thickness that is less than the thickness of the dielectric layer 20 in the trench 14b. There can be no other interpretation of Fig. 2C and the examiner is incorrect in interpreting Fig. 2C. Furthermore, the instant invention described a interconnect structure formed in a dielectric layer 20 and the cited reference described a transistor formed in silicon. There can therefore be no motivation to combine the references as required under 35 U.S.C. 103 as these are two completely different areas of the art. There is no motivation to combine the thickness of a transistor gate dielectric layer with that of a barrier layer in an interconnect layer. The limitations of claim 1 are not contained in the cited reference and claim 1 is allowable over the cited art.

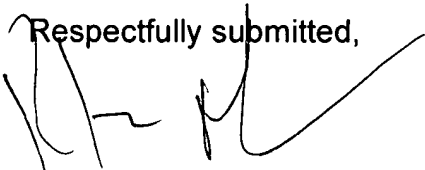
Claims 7, 11, and 15 all comprise the limitation of different thickness in the barrier layer. As described above, this limitation is not described in the cited reference and claims 7, 11 and 15 are therefore also allowable over the cited art.

Claims 2-6, 8-10, 12-14, and 16 depend on claims 1, 7, 11, and 15 respectively and therefore contain all the limitations of respective independent claims. Claims 2-6, 8-10, 12-14, and 16 are therefore also allowable over the cited art.

In light of the above, it is respectfully submitted that the present application is in condition for allowance, and notice to that effect is respectfully requested.

While it is believed that the instant response places the application in condition for allowance, should the Examiner have any further comments or suggestions, it is respectfully requested that the Examiner contact the undersigned in order to expeditiously resolve any outstanding issues.

To the extent necessary, Applicants petition for an Extension of Time under 37 CFR 1.136. Please charge any fees in connection with the filing of this paper, including extension of time fees, to the deposit account of Texas Instruments Incorporated, Account No. 20-0668.

Respectfully submitted,


Peter K. McLarty
Attorney for Applicants
Reg. No. 44,923

Texas Instruments Incorporated
P.O. Box 655474, MS 3999
Dallas, TX 75265
(972) 917-4258

Amendments to the Drawings:

Formal drawings are filed herewith.